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Regina Buckhouse  
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10/18/93  
V.F.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Ravindra K. PANDEY et al.

Serial No.: 07/973,174

Group Art Unit: 1209

Filing Date: 9 November 1992

Examiner: R. Raymond

Title: PYROPHEOPHORBIDES AND  
THEIR USE IN PHOTODYNAMIC  
THERAPY

INFORMATION DISCLOSURE  
STATEMENT UNDER 37 CFR 1.97

The Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

The information listed below, which may be material to the examination of the above-identified patent application, was disclosed to the Examiner and summarized at pages 1-3 of the application as originally filed. The summaries contain what the undersigned believes to be the salient aspects of the cited references. They are not intended to be a comprehensive statement of the relevance of the information to the subject invention.

U.S. Patents:

Dougherty et al., U.S. Patent No. 4,649,151  
issued March 10, 1987;

Levy et al., U.S. Patent No. 4,883,790 issued  
November 28, 1989;

Levy et al., U.S. Patent No. 4,920,143 issued  
April 24, 1990; and

Pandey et al., U.S. Patent No. 5,002,962 issued  
March 26, 1991.

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Publications:

Lipson et al., The Use of a Derivative of Hematoporphyrin in Tumor Detection, 26 J. Natl. Cancer Institute 1-8 (1961);

Dougherty et al., Photoradiation Therapy - Clinical and Drug Advances, 160 Adv. Exp. Med. Biol. 3-13 (1983);

Kessel et al., Chemistry of Hematoporphyrin-derived Photosensitizers, 46 Photochem. and Photobiol. 563-68 (1987); and

Scourides et al., Nature of the Tumor-localizing Components of Hematoporphyrin Derivative, 47 Cancer Research 3439-45 (1987).

In addition to the information disclosed above, the following references may be material to the above-identified patent application. The Examiner is requested to make this additional information of record also. The additional information includes:

U.S. Patents:

Pandey et al., U.S. Patent No. 5,093,349 issued March 3, 1992; and

Pandey et al., U.S. Patent No. 5,198,460 issued March 30, 1993.

Publication:

Pandey et al., Synthesis and Photosensitizing Activity of a Di-porphyrin Ether, 109 Chem. Abstracts 320, Abstract No. 125066b (1988)

U.S. Patent No. 5,093,349 is a grandparent to the above-identified application and is directed to compounds useful in photodynamic therapy, including (1) simpler dimers or "porphyrin derivatives" of monosubstituted

deuteroporphyrins, (2) hydrophobic ethers of hematoporphyrin or its esters, and (3) hydrophobic ethers of pheophorbol or chlorin derivatives. ('349 patent, column 2, lines 4-12.)

U.S. Patent No. 5,198,460 is a parent to the above-identified application and a continuation-in-part of the '349 patent. The '460 patent is directed to pyropheophorbide compounds described by one of two general structural formulae and to pharmaceutical compositions containing such compounds that can be used in methods of photodynamic therapy. ('460 patent, column 2, lines 5-9.)

The Chemical Abstracts publication discloses a porphyrin dimer having an ether linkage that can be synthesized from 2-(1-hydroxyethyl)deuteroporphyrin dimethyl ester. The photosensitizing activity and tumoricidal activity of the dimer with light was studied.

Copies of all of the above information and a completed PTO-1449 form are submitted herewith. The Examiner is respectfully requested to make this information of official record in the application.

This Information Disclosure Statement is submitted before the receipt of a final Office Action or a Notice of Allowance. Therefore, Applicants also enclose a check in the amount of \$200.00 to cover the fee due under 37 CFR 1.97(c) and 1.17(p). The Commissioner is hereby authorized to charge any additional fees which may be required by this paper to Deposit Account Number 03-1952.

Applicants would appreciate the Examiner's initialling and returning the enclosed Form PTO-1449, indicating that the above information has been considered and made of record.

This Information Disclosure Statement under 37 CFR 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

While the above information is submitted based on the undersigned's interpretation of the dates thereof, Applicants reserve the right to contest the applicability of the above information as prior art against this application in the event that any date is different from the undersigned's understanding, or if any additional information is developed that demonstrates that any document does not qualify as prior art.

Respectfully submitted,

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